DPM 957-1

Data Sheet

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Under normal use conditions, caustic soda is stable.

INCOMPATIBILITY

When handling caustic soda, avoid contact with aluminum, leather, wool, tin, zinc, and alloys containing these metals. Do not mix with strong acids without dilution and agitation to prevent violent or explosive reaction.

HAZARDOUS DECOMPOSITION PRODUCTS

None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Stop leaks. Contain spill. Remove as much as possible (e.g., shovel up or remove by vacuum truck, if liquid). Neutralize remaining traces of material with dilute acid; then flush area with water followed by liberal covering of sodium bicarbonate. Reuse spilled material, if possible, otherwise place in a closed, labeled container, and store in a safe place to await proper disposal. Persons performing this work should wear adequate personal protective equipment and clothing. **Caution**: Caustic soda may react violently with acids and water.

NEUTRALIZING CHEMICALS

Neutralize with any dilute inorganic acid such as hydrochloric, sulfuric, nitric, phosphoric, and acetic acid.

WASTE DISPOSAL METHOD

Dispose in accordance with all federal, state and local regulations concerning health and pollution. Dispose via approved chemical waste disposal method, if regulations permit.

VIII INDUSTRIAL HYGIENE CONTROL MEASURES

VENTILATION REQUIREMENTS

Good industrial hygiene practice dictates that the work area should be isolated and contained, and provided with adequate local exhaust ventilation or other controls to maintain the air concentration of caustic soda below 2.0 mg/m³ as required by OSHA. Air concentration of carbon monoxide formed by reaction of caustic soda and reducing sugars should not exceed 50 ppm for an eight (8) hour TWA.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

Use NIOSH-approved respirator for dusts and mists. Use air purifying respirator where caustic soda is in contact with reducing sugars.

EYE

Chemical splash goggles and face shield should be worn when working with or around caustic soda.

GLOVES

Gloves coated with rubber, synthetic elastomers, PVC, or other plastic should be worn when handling caustic soda to minimize skin contact.

OTHER CLOTHING AND EQUIPMENT

Hard hats, safety shoes, and rubber boots should be worn along with rubber apron when handling caustic soda. Safety showers and eyewash stations should be provided in all areas in which caustic soda is handled.

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IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

DANGER!

Causes Severe Burns to Skin and Eyes

Do NOT get in eyes, on skin, on clothing.
Avoid breathing dust, mist, or spray.
Do NOT take internally.
Use with adequate ventilation and employ respiratory protection when exposed to dust, mist or spray.
When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing.
Wash thoroughly after handling.
Avoid contact with strong acids to prevent violent or explosive reactions.
Keep container closed.
Hazardous carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures (ANSI Z117.1-1977).

First Aid:

In case of contact:

For eyes: Immediately flush with plenty of water for at least 15 minutes holding eyelids apart to ensure flushing of the entire eye surface. **Seek medical attention immediately.**

Skin: Immediately wash with plenty of water. If available, rinse with vinegar or dilute acetic acid (3% solution). Remove contaminated clothing and footwear. Wash clothing before reuse and discard footwear which cannot be decontaminated. **Seek medical attention immediately.**

Inhalation: Remove person from contaminated area to fresh air. If breathing has stopped, artificial respiration should be started. Oxygen may be administered if readily available. **Seek medical attention immediately.**

Ingestion: If swallowed, DO NOT induce vomiting. Give large quantities of water. If available, give several glasses of milk. NEVER give anything by mouth to an unconscious person. **Seek medical attention immediately.**

Special instructions for dissolving caustic soda:

When making solution, **always** add slowly to liquid surface with constant stirring. **Never add the liquid to the caustic soda.**

Always start with lukewarm liquid (80°-100°F.) **Never** start with hot or cold liquid.

If caustic soda becomes concentrated in one area, or if added too rapidly, or if added to hot or cold liquid, a rapid temperature increase can result in **DANGEROUS** boiling and/or spattering which may cause an immediate **VIOLENT ERUPTION.**

Spill or Leak: Leaks should be stopped. Spills, after containment, should be shoveled up and removed to chemical waste area or removed by vacuum truck, if liquid. Neutralize residue with dilute acid, flush spill area with water followed by liberal covering of sodium bicarbonate. Dispose of wash water according to Federal, State and Local regulations.

For Industrial Use Only

OTHER HANDLING AND STORAGE REQUIREMENTS

Caustic soda is classified by DOT as a corrosive material.

Considerable heat is generated when water is added to caustic soda; therefore, when making solutions **always** add the caustic soda to the water with constant stirring. The water should always be lukewarm (80°-100°F) **Never** start with hot or cold water. If caustic soda becomes concentrated in one area, or if added too rapidly, or if added to hot or cold water, a rapid temperature increase can result in DANGEROUS BOILING and/or spattering or may cause an immediate VIOLENT ERUPTION. Caustic soda can react violently or explosively with acids and many organic chemicals.

Caustic soda reacts with reducing sugars such as fructose, lactose, maltose, galactose, levulose and arabinose to form carbon monoxide. While the potential for worker exposure to carbon monoxide may be small, a potential does exist during cleaning of certain dairy and possibly other industry equipment.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state and DOT regulations. All residual caustic soda should be removed from containers prior to disposal.

More information on the hazards and handling of caustic soda appear in Diamond Shamrock Corporation's Caustic Soda Handbook EC-LDC-1c.

DEPARTMENT OF TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	Caustic Soda, Liquid
HAZARD CLASS:	Corrosive Material
I.D. NO.:	UN 1824
HAZARD SUBSTANCE:	RQ-1000

PREPARED BY: Diamond Shamrock Corporation
Technical Service Group

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